

Ultrasonic measurement

Time-of-Flight

Prosonic FMU41

Cost effective device for sophisticated level measurement in liquids and bulk solids for up to 8m



Benefits:

- Reliable non-contact measurement
- Quick and simple commissioning via menu-guided on-site operation with four-line plain text display, 7 languages selectable
- Envelope curves on the on-site display for simple diagnosis
- Hermetically sealed and potted sensor
- Chemically resistant sensor out of PVDF
- Calibration without filling or discharging
- Integrated temperature sensor for automatic correction of the temperature dependent sound velocity

Specs at a glance

- **Accuracy** +/- 2 mm or +/- 0,2 % of set measuring range
- **Process temperature** -40 °C ... 80 °C (-40 °F ... 176 °F)
- **Process pressure / max. overpressure limit** 0.7 bar ... 3 bar abs (10 psi ... 44 psi)
- **Max. measurement distance** Liquids: 8 m (26 ft), Solids: 3.5 m (11 ft)
- **Main wetted parts** PVDF

More information and current pricing:

www.endress.com/FMU41

Field of application: The Prosonic FMU41 sensor is suited for non-contact level measurement in fluids, pastes, coarse bulk material and flow measurement in open channels or at weirs. The two-wire or four-wire compact transmitter can be used in applications with storage tanks, agitators, on stockpiles and conveyor belts. The envelope curve can be shown on the on-site display for simple diagnosis. Linearization function

(up to 32 points) for conversion of the measured value into any unit of length, volume or flow rate.

Features and specifications

Continuous / Liquids

Measuring principle

Ultrasonic

Characteristic / Application

Compact ultrasonic transmitter

Supply / Communication

2-wire HART

Accuracy

+/- 2 mm or +/- 0,2 % of set measuring range

Ambient temperature

-40 °C ... 80 °C
(-40 °F ... 176 °F)

Process temperature

-40 °C ... 80 °C
(-40 °F ... 176 °F)

Process pressure / max. overpressure limit

0.7 bar ... 3 bar abs
(10 psi ... 44 psi)

Main wetted parts

PVDF

Process connection

G / NPT 2"

Blocking distance

0.35 m (1.15 ft)

Continuous / Liquids

Max. measurement distance

Liquids: 8 m (26 ft),

Solids: 3.5 m (11 ft)

Communication

4...20 mA HART

Certificates / Approvals

ATEX, FM, CSA, TIIS, INMETRO, NEPSI

Application limits

For higher resistance:

FMU42/FDU9x

Foam / high turbulence possible:

FMU42/FDU91

Fast filling and discharging rate:

FMU90 + FDU9x

Level limit detection:

FMU90 + FDU9x

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Ultrasonic

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1)

Ambient temperature

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(-40 °F ... 176 °F)

Continuous / Solids

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Application limits

Take notice of range diagram

Liquids

Measuring principle

Ultrasonic

Product headline

Compact ultrasonic measuring
instrument
Cost effective solution for open channels

Liquids

Max. measurement error

Low accuracy

Measuring range

Measuring distance 0,4...8m [1.3...26ft]

Max. process pressure

atm.

Medium temperature range

-40°C...80°C

(-40°F...176°F)

Degree of protection

IP68

Outputs

4...20mA(Hart),PA,FF

Inputs

2-wire 16-36V DC

4-wire 16-36V DC

90-253V AC 50/60Hz

Digital communication

PROFIBUS PA, FOUNDATION Fieldbus

Hazardous area approvals

ATEX, FM, CSA

More information www.endress.com/FMU41